

410 IAC 1-2.5-97 Escherichia coli infection (Shiga toxin-producing): E. coli 0157, E. coli 0157:H7, non-0157 E. coli, and Shiga toxin detected and hemolytic uremic syndrome (HUS), postdiarrheal; specific control measures
Authority: IC 16-19-3-4; IC 16-41-2-1
Affected: IC 16-41-2; IC 16-41-9

Sec. 97. The specific control measures for Escherichia coli (E. coli) infection (Shiga toxin-producing (STEC)), including, but not limited to, E. coli 0157, E. coli 0157:H7, non-0157 E. coli, and Shiga toxin detected and hemolytic uremic syndrome (HUS) are as follows:

- (1) An investigation by the local health officer shall meet the following conditions:
 - (A) Be performed immediately.
 - (B) Include a seven (7) day history of the following prior to symptom onset:
 - (i) Food and drink consumption.
 - (ii) Water exposures.
 - (iii) Animal exposures.
 - (C) Determine if the case is part of an outbreak.
 - (D) Determine if the case is a:
 - (i) food employee;
 - (ii) daycare worker;
 - (iii) health care worker; or
 - (E) daycare attendee, a school attendee, or anyone who lives at a residential institution. Determine if the case is a contact of a food employee serving a highly susceptible population.
 - (F) Determine if meal companions are additional cases.
 - (G) If a commercial food product or restaurant is suspected, conduct active surveillance for additional cases. Medical evaluation, including adequate laboratory examination of feces of contacts, should be limited to food employees, daycare workers, health care workers, or other situations where outbreaks may occur.
- (2) In addition to standard precautions, contact precautions shall be followed for patients with all types of E. coli diarrhea for the duration of illness. Patients with HUS, postdiarrheal should be presumed to have STEC infection. For others, the following guidelines apply:
 - (A) Cases who are food employees shall abide by the following:
 - (i) If the case works in a food establishment serving a highly susceptible population, exclude from employment involving food handling until asymptomatic and all of the following have occurred:
 - (AA) The case has been counseled about preventive measures, such as hand washing procedures, that must be followed to prevent transmission of disease.
 - (BB) The local health officer has discussed the following topics with the employer:
 - (aa) The employer's duty to comply with local and state rules pertaining to prevention of infectious diseases.
 - (bb) The availability of required proper hand washing facilities for employees.
 - (cc) The correction of any observed lapses in hygienic measures by employees.
 - (CC) The person in charge obtains approval from the regulatory authority.
 - (DD) One (1) of the following has been met:
 - (aa) The local health officer has determined the case has been asymptomatic for at least twenty-four (24) hours, and the food employee is free of an infection from STEC based on test results that show two (2) consecutive negative stool cultures for STEC and nonculture assay for Shiga toxin tested simultaneously have been collected:
 - (1) at least twenty-four (24) hours apart; and
 - (2) if the case was treated with antimicrobials prior to E. coli confirmation or diagnosis, at least forty-eight (48) hours after the cessation of antimicrobial therapy.
 - (bb) The local health officer has determined that the symptoms of vomiting and diarrhea have resolved and more than seven (7) calendar days have passed since the food employee became asymptomatic.
 - (cc) The local health officer has determined the case did not develop symptoms, and more than seven (7) days have passed since the food employee was diagnosed.
 - (ii) If the case works in a food establishment not serving a highly susceptible population, exclude from employment involving food handling until asymptomatic from vomiting and diarrhea for at least twenty-four (24) hours, then restrict until all of the following have occurred:
 - (AA) The case has been counseled about preventive measures, such as hand washing procedures, that shall be followed to prevent transmission of disease.
 - (BB) The local health officer has discussed the following topics with the employer:

- (aa) The employer's duty to comply with local and state rules pertaining to prevention of infectious diseases.
 - (bb) The availability of required proper hand washing facilities for employees.
 - (cc) The correction of any observed lapses in hygienic measures by employees.
- (CC) The person in charge obtains approval from the regulatory authority.
- (DD) One (1) of the following has been met:
 - (aa) The local health officer has determined the case has been asymptomatic for at least twenty-four (24) hours, and the food employee is free of an infection from STEC based on test results that show two (2) consecutive negative stool cultures for STEC and nonculture assay for Shiga toxin tested simultaneously have been collected:
 - (1) at least twenty-four (24) hours apart; and
 - (2) if the case was treated with antimicrobials prior to E. coli confirmation or diagnosis, at least forty-eight (48) hours after the cessation of antimicrobial therapy.
 - (bb) The local health officer has determined that the symptoms of vomiting and diarrhea have resolved, and more than seven (7) calendar days have passed since the food employee became asymptomatic.
 - (cc) The local health officer has determined the case did not develop symptoms, and more than seven (7) days have passed since the food employee was diagnosed.
- (B) Cases employed as daycare workers, health care workers, or in similar positions shall be excluded from employment involving direct care of children or hospitalized or institutionalized patients until all of the following have occurred:
 - (i) The local health officer has determined the case has been asymptomatic for at least twenty-four (24) hours.
 - (ii) The case has been counseled about preventive measures, such as hand washing, that must be followed to prevent transmission of disease.
 - (iii) The local health officer has discussed the following topics with the employer:
 - (AA) The employer's duty to comply with local and state rules pertaining to prevention of infectious diseases.
 - (BB) The availability of required proper hand washing facilities for employees.
 - (CC) The correction of any observed lapses in hygienic measures by employees.
- (C) Cases shall be excluded from attending preschools and daycare facilities until all of the following have occurred:
 - (i) The local health officer has determined the case has been asymptomatic for at least twenty-four (24) hours.
 - (ii) Two (2) successive negative stool cultures for STEC and nonculture assay for Shiga toxin tested simultaneously have been collected:
 - (AA) at least twenty-four (24) hours apart; and
 - (BB) if the case was treated with antimicrobials prior to E. coli confirmation or diagnosis, at least forty-eight (48) hours after the cessation of antimicrobial therapy.
 - (iii) The case or case's guardian has been counseled about preventive measures, such as hand washing procedures, that must be followed to prevent transmission of disease.
 - (iv) The local health officer has discussed with the appropriate preschool or daycare facility staff the need:
 - (AA) for proper hand washing procedures and other infection control practices; and (BB) to comply with all local and state rules pertaining to prevention of infectious diseases.
- (D) Cases shall be excluded from attending schools until all of the following have occurred:
 - (i) The local health officer has determined the case has been asymptomatic for at least twenty-four (24) hours.
 - (ii) The case or case's guardian has been counseled about preventive measures, such as hand washing procedures, that must be followed to prevent transmission of disease.
 - (iii) The local health officer has discussed with the appropriate school staff the need:
 - (AA) for proper hand washing procedures and other infection control practices; and (BB) to comply with all local and state rules pertaining to prevention of infectious diseases.
- (E) If an outbreak occurs in a daycare facility or preschool, the following shall occur:
 - (i) All attendees and staff may be required to submit stool specimens for examination.
 - (ii) Instead of exclusion until stool-negative, attendees and staff may be isolated from other attendees and staff in the same facility based on symptoms, laboratory testing, and treatment. This alternative shall only be considered if the physical structure and staff organization of the facility can

accommodate isolation of various groups from one another. If this alternative is selected, increased emphasis on hand washing procedures and environmental cleaning is necessary.

(iii) Admission of all new attendees may be suspended while the outbreak continues.

(F) A case contact who is a food employee in a food establishment serving a highly susceptible population must abide by the following criteria:

(i) Restrict the contact if the contact meets one (1) of the following criteria:

(AA) Attended or worked in a setting of a confirmed disease outbreak of STEC within the past three (3) days of last exposure.

(BB) Lives in the same household as, and has knowledge about, an individual who works in or attends a setting where there is a confirmed disease outbreak of STEC within the past three (3) days of last exposure.

(CC) Lives in the same household as, and has knowledge about, an individual diagnosed with an illness caused by STEC within the past three (3) days of last exposure.

(DD) Consumed food prepared by a person infected with STEC within the past three

(1) days of last exposure.

(EE) Consumed or prepared food implicated in a confirmed disease outbreak of STEC within the past three (3) days of last exposure.

(ii) Reinstate the food employee who was restricted when one (1) of the following has occurred: (AA) More than three (3) calendar days have passed since the last day the food employee was potentially exposed.

(BB) More than three (3) calendar days have passed since the food employee's household contact became asymptomatic.

(3) Concurrent disinfection of feces and fecal soiled articles is required. Feces may be discarded in a sanitary sewer without prior disinfection.

(4) Quarantine is not required.

(5) HUS is a serious sequel of STEC enteric infection. E. coli 0157:H7 is the STEC serotype most commonly associated with HUS, defined by the triad of microangiopathic hemolytic anemia, thrombocytopenia, and acute renal dysfunction. The illness is serious and typically develops seven (7) days (up to three (3) weeks) after onset of diarrhea. STEC should be sought in stool specimens from all patients diagnosed with HUS, postdiarrheal. However, the absence of STEC does not preclude the diagnosis of probable STEC-associated HUS, because HUS typically is diagnosed a week or more after onset of diarrhea, when the organism may not be detectable by conventional methods. Negative stool specimens from HUS, postdiarrheal cases may be sent to the department for analysis.

(6) Orally administered electrolyte-containing solutions usually are adequate to prevent or treat dehydration and electrolyte abnormalities. Antimotility agents should not be administered to children with inflammatory or bloody diarrhea. Careful monitoring of patients with hemorrhagic colitis (including complete blood cell count with smear, blood urea nitrogen, and creatinine concentrations) is recommended to detect changes suggestive of HUS.

(7) Immunization is not available. Protection of contacts is not applicable.

(8) The Centers for Disease Control and Prevention and the Council of State and Territorial Epidemiologists set the standard clinical and laboratory case definition.

(Indiana State Department of Health; 410 IAC 1-2.5-97; effective Dec 25, 2015)